

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION  
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In the Matter of	)	
	)	
Amendment of Section 2.106 of the	)	ET Docket No. 95-18
Commission's Rules to Allocate	)	RM-7927
Spectrum at 2 GHz for Use by the	)	PP-28
Mobile Satellite Service	)	

**COMMENTS OF CALIFORNIA OREGON BROADCASTING, INC.**

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## **SUMMARY**

California Oregon Broadcasting, Inc. ("COBi") urges the Commission to employ the greatest possible flexibility in its reallocation of the 2 GHz Broadcast Auxiliary Service ("BAS") spectrum to the Mobile Satellite Service ("MSS"), and its relocation of incumbent BAS licensees to a new, smaller spectrum band. Such flexibility is required in order to accommodate the multiplicity of service requirements placed on current BAS systems. The Commission should grant liberally all reasonable BAS spectrum and channelization proposals and, where necessary, permit individual BAS licensees to request waivers of the new allocation in order to maintain existing services which require more spectrum than will be available in the new reduced band.

If BAS licensees are forced to retune, relocate or replace their equipment as a result of MSS spectrum requirements, COBi urges the Commission to ensure that MSS operators will be responsible for payment of all expenses associated with such actions. This obligation should not be subject to sunset.

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**COMMENTS OF CALIFORNIA OREGON BROADCASTING, INC.**

California Oregon Broadcasting, Inc. ("COBi"), by counsel and pursuant to Section 1.415 of the Rules, hereby submits its comments in response to the Further Notice of Proposed Rulemaking ("Further Notice"), released in the above-captioned proceeding on March 14, 1997. COBi understands the need to accommodate new services that the Commission seeks to fulfill in this proceeding. However, COBi urges the Commission to adopt rules pursuant to this Further Notice which will preserve the ability of Broadcast Auxiliary Service ("BAS") licensees to maintain the important services they already provide with the least disruption or hardship to such licensees or those who rely on them. It is with this goal in mind that COBi offers the instant comments.

**Background**

Established in 1933, COBi is a broadcast corporation which holds licenses for television stations operating in Medford, Klamath Falls and Eugene, Oregon. Because this region

is extremely mountainous, signal propagation for broadcast services presents a serious technical challenge. In order to overcome this inherent problem, COBi relies heavily on fixed-link BAS relays, employing 39 such facilities to carry its signals over some 1400 path miles within its operational area.<sup>1</sup> Far from being unique, this usage is typical of broadcasters in small and medium sized markets operating in mountainous areas such as the Pacific Northwest.

In the First Report and Order ("Order") in the above-captioned proceeding,<sup>2</sup> the Commission reallocated the band 1990-2110 MHz to the nascent Mobile Satellite Service ("MSS"), relocating BAS licensees currently occupying that spectrum to the band 2025-2130 MHz, and thereby reducing the total spectrum allocated to BAS in the 2 GHz band by 15 MHz.<sup>3</sup> Order at 32. The Commission now seeks comment on the most efficient method for channelization of BAS in the new reduced band. In the Order, the Commission also determined that MSS licensees would be responsible for the costs associated with relocating displaced BAS operations. Id at 33. It now seeks comment on its proposed rules and policies for implementation of this decision as well.

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<sup>1</sup> COBi is also licensed to operate four additional BAS facilities for purposes of electronic newsgathering (ENG).

<sup>2</sup> ET Docket 95-18, FCC 97-93 (released March 14, 1997).

<sup>3</sup> BAS facilities are also authorized to employ spectrum in the 7 GHz and 13 GHz bands.

It is the specific logistical issues of these proposals that concern COBi.

**I. COMMISSION SHOULD ALLOW BAS LICENSEES MAXIMUM FLEXIBILITY TO MAINTAIN EXISTING SERVICE**

BAS service requirements are largely a function of local circumstances. These circumstances are influenced by such factors as terrain, population distribution and the broadcast support needs of a given licensee. Any rules for relocation of BAS adopted pursuant to this proceeding must take these fundamental facts into account. Therefore, the Commission should allow BAS licensees the maximum possible flexibility to craft local arrangements which will respond to their individual circumstances and allow them to maintain current levels of service.

**A. Commission Should Not Limit BAS Bandwidth and Channel Size Proposals**

The Commission has relocated BAS to the 2025-2130 MHz band. Because this band is 15 MHz smaller than the current BAS band, the Commission proposes to maintain the current seven channel distribution of BAS spectrum, but reduce the bandwidth of the seven channels therein from the current 17/18 MHz to 15 MHz each. Further Notice at 65. The Commission states that it believes "replacement of current BAS equipment with equipment having narrower intermediate frequency bandpass to avoid degradation in adjacent channel rejection will be all that is necessary to relocate BAS incumbents," thereby allowing for spectrum compression while maintaining current transmission capacity. Id. at 66. COBi strongly disagrees with this

assumption, and opposes any requirement placed on BAS licensees on its basis.

Notwithstanding statements submitted in earlier comment cycles in this proceeding, a significant portion of COBi's current 2 GHz band authority (thirty-nine out of forty-three facilities) is devoted to fixed-link operations.<sup>4</sup> While electronic newsgathering (ENG) BAS operations can be accommodated by 15 MHz wide channels, COBi's fixed-link BAS operations cannot. As explained in the attached engineering statement of Karl Sargent, COBi employs its inter-city links to carry video signals plus ancillary signals for communications and control purposes, including audio, telco and switch signals.<sup>5</sup> In order to accomodate these functions, COBi employs a maximum subcarrier frequency of 7.2 MHz which, in turn, requires a bandwidth of 16.45 MHz.<sup>6</sup> Thus, a reduction in the bandwidth allocated to BAS and a corresponding reduction in channel size would prove disastrous to licensees such as COBi, whose spectrum use

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<sup>4</sup> See Comments of The Society of Broadcast Engineers in response to the Notice of Proposed Rulemaking, ET Docket No. 95-18, FCC 95-39. COBi estimates the ratio of fixed-link to ENG operations in other markets facing propagation problems similar to COBi's to be as high as five to one.

<sup>5</sup> See Engineering Statement of Karl Sargent, attached hereto as Attachment A.

<sup>6</sup> ENG, in comparison, normally employs a 5.8 MHz subcarrier requiring a bandwidth of 13.6 Mhz. See Attachment A hereto.

requirements are greater than can be accommodated by the new band.<sup>7</sup>

**B. Commission Should Allow Waivers Of Allocation Scheme**

Originally, the Commission proposed a full-scale reallocation of 120 MHz of spectrum for BAS at 2025-2145 MHz, thus allowing BAS to maintain its current bandwidth size and channel plan without disruption.<sup>8</sup> Under such a scheme, reallocation simply would have meant retuning those BAS stations licensed to the current BAS channels A1 and A2 (1990-2025 Mhz) -- in COBi's case, 12 out of its 43 BAS licenses -- and reprobng antennas to the shifted bands. Unfortunately, the Commission decided against this proposal. Order at 32. In order to relocate the BAS service, the Commission must first clear existing Fixed Service (FS) licensees from the 2110-2130 MHz band. The original proposal also would have entailed clearing FS from the 2130-2145 MHz portion of this band. In light of evidence that ENG operations could be accomodated in the reduced band, the Commission decided it would be more efficient overall not to remove FS from this additional 15 MHz of spectrum. Id.

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<sup>7</sup> Even if 17 MHz wide channels were maintained at the new band, the reduction in overall spectrum would mean that only 6 such channels would be available, thus taking away COBi's ability to maintain its existing level of service in the 2 GHz band.

<sup>8</sup> See Notice of Proposed Rulemaking, ET Docket No. 95-18, FCC 95-39, 10 FCC Rcd 3230 (1995).



COBi believes that the Commission's original approach is still the most desirable in terms of minimizing service disruption and relocation costs. If the Commission is unwilling to reconsider this proposal on a large scale, COBi urges it to allow such a plan to be implemented where local conditions allow for it.<sup>9</sup> To this end, COBi supports the Commission's apparent willingness to entertain individual solutions to sharing problems,<sup>10</sup> and urges the Commission to allow BAS licensees to employ the band 2130-2145 MHz in such cases where the BAS licensee can demonstrate that such usage would not cause unacceptable interference to any incumbent FS operations. The Commission could require such BAS licensees to file petitions for temporary or permanent waiver of the Table of Allocations which contained the necessary interference analyses, and could issue such waivers on the understanding that use of this band by BAS would be secondary, and subject to preemption in the event of unacceptable interference.<sup>11</sup> By allowing individual BAS

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<sup>9</sup> As the Commission recognizes, BAS service is highly localized and directional in nature, thus allowing for a high degree of flexibility in fashioning interference avoidance schemes. Further Notice at 68.

<sup>10</sup> Further Notice at 69.

<sup>11</sup> Such a plan would have the added benefit of saving MSS licensees a considerable sum of money by substantially reducing relocation costs. COBi estimates that the cost of conversion of its BAS facilities under such a plan would amount to approximately \$180,000, excluding labor. However, in the event that a BAS licensee operating under such a waiver were forced to abandon the 2130-2145 MHz band and take alternative relocation steps, the obligation of the MSS licensees to cover the cost of such action should not be allowed to lapse.

licensees to request local waivers of the proposed allocation scheme to accommodate their current needs, the Commission would ensure that service is not disrupted by technical limitations or uncertainty regarding the future.<sup>12</sup>

**II. ANY RELOCATION OR DIGITALIZATION REQUIRED DUE TO  
DISPLACEMENT BY MSS SHOULD BE FULLY FUNDED BY MSS**

In the event the Commission rejects COBi's proposal that individual licensees be allowed to submit accommodation plans which include the use of spectrum outside the band proposed by the Commission, BAS licensees such as COBi will face two alternatives in order to maintain current levels of service; either retune to one of the higher BAS bands elsewhere in the spectrum (if available), or digitalize all equipment in order to squeeze into the new 15 MHz channels. Either choice will entail substantial expense.<sup>13</sup> In the Order, the Commission pledged to hold MSS licensees responsible for paying the cost of such

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<sup>12</sup> Some BAS licensees are beginning to make tentative plans for the possible conversion of their systems to digital service, in conjunction with the Commission's recent Advanced Television Service Orders. See Fifth and Sixth Reports & Orders, MM Docket No. 87-268, FCC 97-115/116, released April 21, 1997. Digital fixed-link BAS service could be accommodated in a 15 MHz channelization scheme like the one now proposed by the Commission. Therefore, it appears possible that at some point in the future, the problem of bandwidth limitation may resolve itself. However, it is impossible to estimate when (or if) such a conversion would take place for any given system.

<sup>13</sup> COBi estimates that the cost of retuning or replacing its equipment to operate in the higher bands could run as high as \$1.5 Million, excluding labor. The cost of converting its system to digital service could run as high as \$1.8 Million, excluding labor.

actions. COBi urges the Commission to adopt sufficiently strong rules to ensure that MSS licensee meet this obligation. In order to aid in this process, COBi offers the following observations.

**A. Ordinary Equipment Replacement Schedules Will Not Provide For "Natural" Phase Out of Incompatible Equipment**

In the Order, the Commission noted the suggestion by the MSS Coalition that the "natural" equipment replacement process would go a long way toward cycling out BAS equipment incompatible with the Commission's proposed channelization plan. Order at 27. The MSS Coalition urged that BAS licensees be responsible for paying such ordinary replacement costs. Id. While the Commission ultimately rejected this notion, COBi wishes to emphasize its disagreement with the MSS Coalition's assumptions regarding equipment replacement schedules, lest such assumptions be used against BAS licensees in negotiations with the MSS industry over relocation costs. COBi's own fixed-link equipment, although manufactured in the 1970's, still meets the Commission's service parameters, and would be capable (absent the instant proceeding) of doing so indefinitely. Barring the requirements forced on it by this proceeding, COBi has no plans to retire or replace this equipment any time in the foreseeable future. Because there is no natural cycle at play, any equipment replacement would be the specific result of this proceeding, and the cost thereof necessarily must be borne by the MSS licensees.

**B. Reimbursement Must Cover All Costs Incurred**

As noted, if the Commission adopts its 105 MHz band plan, COBi's BAS operations must either move to another band or digitalize. Either alternative will involve more expenses than just simple equipment replacement (although that will be a substantial part of the cost, of course). To give just one example, migration to another band may necessarily involve the addition of new link sites in order to accommodate the particular propagation characteristics of the new band. This, in turn, would require the payment of new lease or purchase prices for the new sites, as well as possible utility hookups, local license fees, FAA clearance and other expenses. As the Commission recognizes, such expenses must be included in calculations of the reimbursement owed to a displaced BAS licensee. Further Notice at 70.

With regard to digitalization, because BAS is a systemic service dependent on multiple signal links, digitalization of one part of the system would necessarily entail digitalization of the entire system, in order to allow it to function. Therefore, a BAS licensee should not be reimbursed only for the cost of conversion of a specific piece of equipment, but also for costs related to any part of the system affected by the conversion as well.

In short, COBi believes that MSS licensees should not be permitted through selective reimbursement to pick and choose

what BAS equipment will be modified, replaced or relocated in order to accommodate BAS in the new band. COBi supports the Commission's proposals to ensure that MSS licensees will be responsible for the entire cost of any such actions necessitated by the disruption of current BAS operations.

**C. The Commission Should Not Sunset MSS Obligations To BAS Licensees**

The Commission proposes a series of negotiation periods during which MSS and BAS licensees would voluntarily work out arrangements for relocation of the BAS systems. Further Notice at 70.<sup>14</sup> At the end of such periods, the Commission proposes to allow MSS licensees to involuntarily relocate BAS operations, subject to an obligation that the BAS operations be fully replicated and paid for by MSS licensees at its new location, as discussed above. The Commission questions whether this involuntary period should be subject to a further sunset date after which MSS licensees could displace BAS operations without incurring any costs. Id.

COBi opposes such a sunset as applied to BAS relocation. First, relocation of BAS operations to the 2025-2130 MHz band is predicated on the clearing of Fixed Service (FS)

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<sup>14</sup> The Commission asks whether BAS concerns should be required to negotiate as a collective entity, or on an individual basis. Id. The discussion of the specialized circumstances of individual BAS operations herein should make plain that collective bargaining would be impracticable in this instance. BAS licensees should be able to count on Commission support for any necessary "weight" that they bring to negotiations.

operations from the 2110-2130 MHz bands, with which service BAS generally is incompatible. The Commission has proposed making MSS licensees responsible for clearing FS operations from this band as well, and has proposed a sunset date after which MSS licensees could forcibly remove FS operations from this band without recompense. Further Notice at 74 et seq. If a sunset provision is designed to discourage incumbent parties from delaying their relocation, BAS licensees should not be put in jeopardy of forcible uncompensated removal based on a predicate action (the removal of FS operations) over which they have no control.

Second, COBi is concerned that if MSS licensees are presented with a mechanism which makes possible the forcible removal of both FS and BAS incumbents without incurring any obligation for compensation, some such MSS licensees may be strongly tempted to stonewall accommodation of these incumbents in order to take advantage of this cost savings. COBi believes that the public interest in expedited resolution of all displacement issues would be better served if there was no monetary incentive to delay such resolution. Thus, sunset provisions should not be attached to the obligations of the MSS industry to BAS licensees in this matter.

## **CONCLUSION**

For the foregoing reasons the Commission should accommodate emerging new technologies while providing maximum flexibility and a minimum of disruption to existing services. Therefore, COBi urges the Commission to adopt regulations consistent with the comments and proposals herein.

Respectfully submitted,

**CALIFORNIA OREGON  
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**ATTACHMENT A - ENGINEERING STATEMENT OF KARL SARGENT**

I, Karl Sargent, a technically qualified engineer employed by California Oregon Broadcasting, Inc. ("COBi"), state the following:

COBi employs a maximum 7.2 MHz subcarrier frequency within the 2 GHz band for its inter-city microwave links. These links carry its video signals plus ancillary signals for communications and control purposes including audio, telco and switching signals.

The 7.2 MHz subcarrier frequency requires a bandwidth of 16.45 MHz [BW =  $2 \times (\text{Highest Frequency}) + \text{algebraic sum of the deviations of each carried signal}^1 = 2 \times 7.2 \text{ MHz} + \sqrt{2 \text{ MHz}^2 + .34 \text{ MHz}^2 + (.1 \text{ MHz}^2 \times 9)} = 14.4 \text{ MHz} + \sqrt{4.0 + .12 + .09} = 14.4 + \sqrt{4.21 \text{ MHz}} = 14.4 + 2.05 = 16.45 \text{ MHz.}]$  This is the worst case link, but the range is from 15.85 to 16.45 MHz.

On the other hand, ENG normally uses a 5.8 MHz subcarrier and with the above bandwidth formula, this comes out to be 13.6 MHz [BW =  $(2 \times 5.8 \text{ MHz}) + 2.0 \text{ MHz} = 11.6 \text{ MHz} + 2.0 \text{ MHz} = 13.6 \text{ MHz.}]$  This is easily carried on the proposed 15 MHz channels.

Reduction of the 2 GHz spectrum available for BAS use to a total of 105 MHz (7 channels of 15 MHz width each) would necessitate converting all of COBi's intercity links in that band to some other form of transmission (i.e., transition to another band or conversion to digital.)

I hereby certify that the foregoing is true and accurate to the best of my knowledge.

20 JUNE 1997

Date

  
Karl Sargent

<sup>1</sup> For COBi, the subcarrier deviations are as follows: Video 2.0 MHz; Program Audio - 0.34 MHz; Communications Channels (9 total) - 0.1 MHz for each of 9 channels.